

Notice of Allowability

Application No.

10/692,854

Examiner

Tran N. Nguyen

Applicant(s)

KANEKO ET AL.

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to ____.
2. ☐ The allowed claim(s) is/are 1-15.
3. ☒ The drawings filed on 27 October 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date ____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date ____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____

Tran N. Nguyen
Primary Examiner
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Allowable Subject Matter

Claims 1-15 are allowed.

Reason for Allowability

The following is an examiner's statement of reasons for allowance: the primary reason for the allowance is the including, *in combination with other limitations recited in the claims*, the limitations of an a.c. motor-inverter integrated drive unit (fig 2) comprising:

an a.c. motor powered by an alternating current, the motor including:

a rotor (110) rotatable about a rotation axis,

a plurality of stator cores (101) arranged about the rotation axis at evenly spaced intervals to constitute a cylindrical stator structure,

a plurality of stator coils (204) disposed on the stator cores respectively and

a plurality of cooling passages (102) formed in the stator cores respectively;

an inverter (1000) which converts a direct current to an alternating current and includes a plurality of power drivers (103) which are arranged on the stator cores respectively; and wiring members (103) through which the power drivers and the stator coils are connected respectively.

Comparing to the prior-art of the record, the most relevant prior art references are WO 02/02909, USP 5,491,370, and USP 4,316,112..

WO 02/02909 discloses an electric machine comprising a housing for accommodating a stator and a rotor therein. The electric machine is coupled in a heat-conductive manner to a cooling device arranged on the periphery thereof and is connected to an electronic power control unit. The electronic power control unit is divided into a plurality of modules which are respectively electrically connected to at least one of the stators and/or rotor coils, whereby the modules are arranged on the periphery of the electric machine housing and are coupled to the cooling device in a heat-conducting manner. Thus, in WO 02/02909 motor the cooling device and the power drivers are arranged on the periphery of the housing (fig 1) instead of the plural

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cooling passages being provided in the stator cores, and the plural power drivers are arranged on the stator cores respectively.

Similarly, USP 5,491,370 also discloses a motor having the power inverter with power drivers (14, 16) attached to the outer peripheral of the housing (12) that is provided with cooling passages while the stator core (75) is attached to the inner peripheral of the housing (12).

USP 4,316,112 discloses each of the stator cores having cooling passage (54) but has no power drivers arranged on each of the stator cores:

Thus, none of the prior art references of the record, either stand-alone or in combination, has taught or suggest the above-mentioned features, i.e., *each of the stator cores has both a cooling passage is arranged therein and a power driver is arranged thereon*, in combination with other limitations recited in the claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

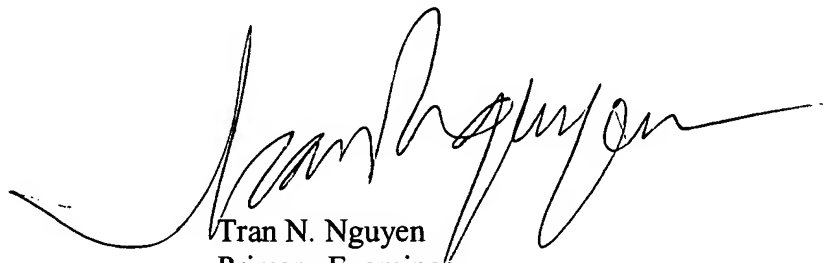
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N. Nguyen whose telephone number is (571) 272-2030. The examiner can normally be reached on M-F 7:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)-272-2045. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tran N. Nguyen
Primary Examiner
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